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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,141	KUNINOBU, HIROAKI	
	Examiner	Art Unit	
	NIMA MAHMOUDZADEH	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Prosecution Reopened

1. Applicant's submission filed on 02/27/2009 has been entered and considered. Prosecution in this application has been reopened.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 7, 11, 13, 14, 19, 20, 21, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Akahane et al. (US Patent Publication No. 2003/0053414).

Regarding claim 1,(currently amended) Akahane et al. teach a data transfer system for transferring control information from a control terminal to a target through a data transmission network including at least one data transmission equipment working in a predetermined communication protocol (Fig. 1 discloses the edge routers of the MPLS network. Fig. 11, discloses the encapsulated packet structure which includes control information within the packet), wherein each of said at least one data transmission equipment comprises:

a receiving section for receiving a transmission signal including control information from upstream (Fig. 10, discloses the reception section of a router in the MPLS network);

a transmitting section for transmitting the transmission signal including control information to downstream (Fig. 10, discloses the transmission section, transmitting encapsulated data including the control information within the packets shown in Fig. 11 to the target); and

a forwarding section for forwarding control information included in the transmission signal to the transmitting section without controlling the control information according to the predetermined communication protocol (Fig. 10 discloses the label distribution protocol transmission utilizing the routing/forwarding section of the device. Also, the encapsulated packet of Fig. 11 that includes control data labeled to be transmitted through the MPLS network without the encapsulated control information being used).

FIG. 1

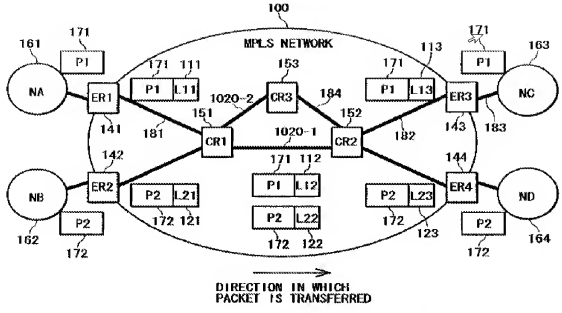

100
MPLS NETWORK
NA
NB
NC
ND
ER1
ER2
ER3
ER4
CR1
CR2
CR3
P1
P2
L11
L12
L13
L21
L22
L23
161
162
163
164
171
172
111
112
113
121
122
123
141
142
143
144
151
152
153
181
182
183
184
1020-1
1020-2
DIRECTION IN WHICH PACKET IS TRANSFERRED

FIG. 10

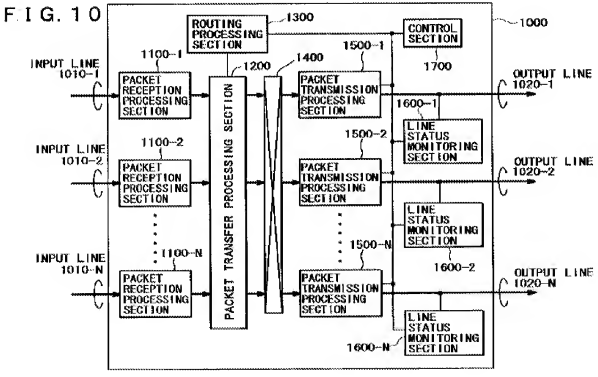
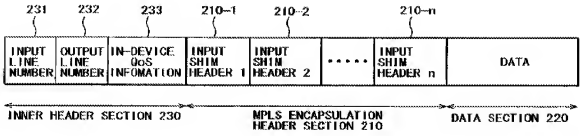

1000
ROUTING PROCESSING SECTION
1300
CONTROL SECTION
1700
INPUT LINE 1010-1
INPUT LINE 1010-2
INPUT LINE 1010-N
1100-1
1100-2
1100-N
PACKET RECEPTION PROCESSING SECTION
1200
PACKET TRANSFER PROCESSING SECTION
1400
1500-1
1500-2
1500-N
PACKET TRANSMISSION PROCESSING SECTION
OUTPUT LINE 1020-1
OUTPUT LINE 1020-2
OUTPUT LINE 1020-N
1600-1
1600-2
1600-N
LINE STATUS MONITORING SECTION

FIG. 11

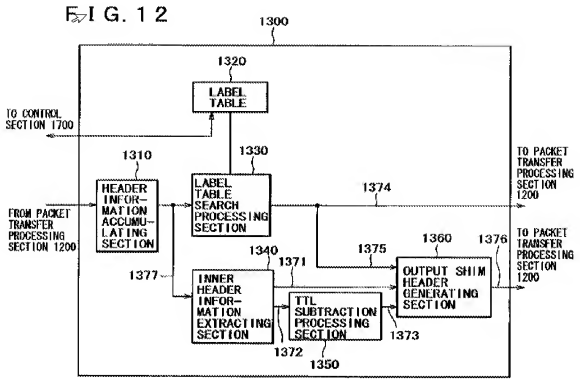


Regarding claim 2, (original) Akahane et al. teach the data transfer system according to claim 1, wherein the forwarding section comprises:

a data extractor for extracting the control information from the received transmission signal (Fig. 12, element 1340); and

a data inserter for inserting the extracted control information into a predetermined one of a first location and a second location of the transmission signal to be transmitted (Fig. 12, element 1360).

FIG. 12



Regarding claim 7, (original) Akahane et al. teach the data transfer system according to claim 1, wherein the forwarding section further comprises:

a data extractor for extracting the control information from the received transmission signal (Fig. 12, element 1340);

a first data inserter for inserting the extracted control information into a first location of the transmission signal to be transmitted (Fig. 11);

a second data inserter for inserting the extracted control information into a second location of the transmission signal to be transmitted (Fig. 11 and Fig. 10, element 1500); and

a switch for forwarding the extracted control information to a selected one of the first and second data inserters depending on predetermined control information (Fig. 11,

discloses the encapsulation and Fig. 12 performing the label table search that includes the predetermined values).

Regarding claim 11, (original) Akahane et al. teach the data transfer system according to claim 1, wherein the data transmission network is composed of data transmission equipments working in the predetermined communication protocol (Fig. 10 discloses an edge router that transfers data according to MPLS network sepcifications).

Regarding claim 13, (currently amended) Akahane et al. teach a data transmission apparatus in a data transfer system for transferring control information from a control terminal to a target through a data transmission network (Fig. 1 discloses the edge routers of the MPLS network. Fig. 11, discloses the encapsulated packet structure which includes control information within the packet), wherein the data transmission apparatus works in a predetermined communication protocol, comprising:

a receiving section for receiving a transmission signal including control information from upstream (Fig. 10, discloses the reception section of a router in the MPLS network);

a transmitting section for transmitting the transmission signal including control information to downstream (Fig. 10, discloses the transmission section, transmitting encapsulated data including the control information within the packets shown in Fig. 11 to the target); and

a forwarding section for forwarding control information included in a received the transmission signal to the transmitting section without controlling the control information according to the predetermined communication protocol (Fig. 10 discloses the label

distribution protocol transmission utilizing the routing/forwarding section of the device. Also, the encapsulated packet of Fig. 11 that includes control data labeled to be transmitted through the MPLS network without the encapsulated control information being used).

Regarding claim 14, (original) Akahane et al. teach the data transmission apparatus according to claim 13, wherein the forwarding section comprises:

a data extractor for extracting the control information from the received transmission signal (Fig. 12, element 1340); and

a data inserter for inserting the extracted control information into a predetermined one of a first location and a second location of the transmission signal to be transmitted (Fig. 12, element 1360).

Regarding claim 19, (original) Akahane et al. teach the data transmission apparatus according to claim 13, wherein the forwarding section further comprises:

a data extractor for extracting the control information from the received transmission signal (Fig. 12, element 1340);

a first data inserter for inserting the extracted control information into a first location of the transmission signal to be transmitted (Fig. 11);

a second data inserter for inserting the extracted control information into a second location of the transmission signal to be transmitted (Fig. 11 and Fig. 10, element 1500); and

a switch for forwarding the extracted control information to a selected one of the first and second data inserters depending on predetermined control information (Fig. 11,

discloses the encapsulation and Fig. 12 performing the label table search that includes the predetermined values).

Regarding claim 20, (currently amended) Akahane et al. teach a data transfer method for transferring control information from a control terminal to a target through a data transmission network including at least one data transmission equipment working in a predetermined communication protocol, comprising:

at each of said at least one data transmission equipment (Fig. 1)),

a) receiving a transmission signal including control information at a receiving section from upstream (Fig. 10, discloses the reception section of a router in the MPLS network);

b) forwarding control information included in the transmission signal to a transmitting section without controlling the control information according to the predetermined communication protocol (Fig. 10 discloses the label distribution protocol transmission utilizing the routing/forwarding section of the device. Also, the encapsulated packet of Fig. 11 that includes control data labeled to be transmitted through the MPLS network without the encapsulated control information being used); and

c) transmitting the transmission signal including the control information from the transmitting section to downstream (Fig. 10, discloses the transmission section, transmitting encapsulated data including the control information within the packets shown in Fig. 11 to the target).

Regarding claim 21, (original) Akahane et al. teach the data transfer method according to claim 20, wherein the step b) comprises:

b. 1) extracting the control information from the received transmission signal (Fig. 12, element 1340); and

b.2) inserting the extracted control information into a predetermined one of a first location and a second location of the transmission signal to be transmitted (Fig. 12, element 1360).

Regarding claim 27, (currently amended) Akahane et al. teach a program instructing a computer of a data transmission equipment to forward control information (Fig. 1 discloses the edge routers of the MPLS network. Fig. 11 discloses the encapsulated packet structure which includes control information within the packet), wherein the data transmission equipment works in a predetermined communication protocol, comprising the steps of:

a) receiving a transmission signal including control information at a receiving section from upstream (Fig. 10, discloses the reception section of a router in the MPLS network);

b) forwarding control information included in the transmission signal to a transmitting section without controlling the control information according to the predetermined communication protocol (Fig. 10 discloses the label distribution protocol transmission utilizing the routing/forwarding section of the device. Also, the encapsulated packet of Fig. 11 that includes control data labeled to be transmitted

through the MPLS network without the encapsulated control information being used); and

c) transmitting the transmission signal including the control information from the transmitting section to downstream (Fig. 10, discloses the transmission section, transmitting encapsulated data including the control information within the packets shown in Fig. 11 to the target);.

Regarding claim 28, (original) Akahane et al. teach the program according to claim 27, wherein the step b) comprises:

b. 1) extracting the control information from the received transmission signal (Fig. 12, element 1340); and

b.2) inserting the extracted control information into a predetermined one of a first location and a second location of the transmission signal to be transmitted (Fig. 12, element 1360).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3-6, 8-10, 12, 15, 16-18, 22-26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akahane et al. in view of Booth (US Patent Publication No. 2002/0085590).

Regarding claim 3, (original) Akahane et al. teach the data transfer system according to claim 2, but fail to explicitly teach the system wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal. Booth teaches the system wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal (Paragraph [0007] discloses control information is used to control the operation of the network and is therefore distinguishable from the random "customer" data that is transported by the network within payload 101. Both the section DCC and line DCC are traditionally used to carry alarms, network maintenance data, commands, network performance data and other administrative data to/from any node within a larger SONET network).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Akahane et al. to include the DCC frame insertion taught by Booth in order to transmit control data in a SONET network.

Regarding claim 4, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 3, Akahane et al. further teach the system wherein the data extractor extracts the control information from the first location of the received transmission signal (Fig. 12, element 1340 extracts the information from the header); and the data inserter inserts the extracted control information into the second location (Fig. 11 and Fig. 12).

Regarding claim 5, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 3, Akahane et al. further teach the system wherein the data extractor extracts the control information from the second location of the received transmission signal (Fig. 12, extractor 1340); and the data inserter inserts the extracted control information into the second location (Fig. 11 and Fig. 12).

Regarding claim 6, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 3, Akahane et al. further teach the system wherein the data extractor extracts the control information from the second location of the received transmission signal (Fig. 12, extractor 1340); and the data inserter inserts the extracted control information into the first location (Fig. 11 and Fig. 12).

Regarding claim 8, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 4, wherein an upstream data transmission equipment works in a different communication protocol and a downstream data transmission equipment works in the predetermined communication protocol (Fig. 1, network 100 is a MPLS network which is connecting non- MPLS networks together).

Regarding claim 9, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 5, wherein both an upstream data transmission equipment and a downstream data transmission equipment work in the predetermined communication protocol (Fig. 1, network 100 is a MPLS network which is connecting non- MPLS networks together).

Regarding claim 10, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 6, wherein an upstream data transmission equipment

works in the predetermined communication protocol and a downstream data transmission equipment works in a different communication protocol (Fig. 1, network 100 is a MPLS network which is connecting non- MPLS networks together).

Regarding claim 12, (original) Akahane et al. in view of Booth teach the data transfer system according to claim 3, Booth further teaches the system wherein bytes that are not used in the transmission signal are assigned to the DCC transmit bytes (Fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Akahane et al. to include the DCC frame insertion taught by Booth in order to transmit control data in a SONET network. Also, it would be obvious to one of ordinary skill in the art at the time the invention was made to assign unused bytes of the transmission signal to the DCC transmit byte as known in the art in order to avoid wasting space in the transmission signal.

Regarding claim 15, (original) Akahane et al. teach the data transmission apparatus according to claim 14, but fail to explicitly teach wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal. However Booth teaches wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal (Paragraph [0007] discloses control information is used to control the operation of the network and is therefore distinguishable from the random "customer" data that is transported by the network

within payload 101. Both the section DCC and line DCC are traditionally used to carry alarms, network maintenance data, commands, network performance data and other administrative data to/from any node within a larger SONET network).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Akahane et al. to include the DCC frame insertion taught by Booth in order to transmit control data in a SONET network.

Regarding claim 16, (original) Akahane et al. in view of Booth teach the data transmission apparatus according to claim 15, Akahane et al. further teach wherein the data extractor extracts the control information from the first location of the received transmission signal (Fig. 12, element 1340 extracts the information from the header); and the data inserter inserts the extracted control information into the second location (Fig. 11 and Fig. 12).

Regarding claim 17, (original) Akahane et al. in view of Booth teach the data transmission apparatus according to claim 15, Akahane et al. further teach wherein the data extractor extracts the control information from the second location of the received transmission signal (Fig. 12, extractor 1340); and the data inserter inserts the extracted control information into the second location (Fig. 11 and Fig. 12).

Regarding claim 18, (original) Akahane et al. in view of Booth teach the data transmission apparatus according to claim 15, Akahane et al. further teach wherein the data extractor extracts the control information from the second location of the received transmission signal (Fig. 12, extractor 1340); and the data inserter inserts the extracted control information into the first location (Fig. 11 and Fig. 12).

Regarding claim 22, (original) Akahane et al. teach the data transfer method according to claim 21, but fail to teach wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal. However, Booth teaches wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal (Paragraph [0007] discloses control information is used to control the operation of the network and is therefore distinguishable from the random "customer" data that is transported by the network within payload 101. Both the section DCC and line DCC are traditionally used to carry alarms, network maintenance data, commands, network performance data and other administrative data to/from any node within a larger SONET network).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Akahane et al. to include the DCC frame insertion taught by Booth in order to transmit control data in a SONET network.

Regarding claim 23, (original) Akahane et al. in view of Booth teach the data transfer method according to claim 22, Akahane et al. further teach wherein in the step

b. 1), the control information is extracted from the first location of the received transmission signal (Fig. 12, element 1340 extracts the information from the header); and in the step

b.2), the extracted control information is inserted into the second location (Fig. 11 and Fig. 12).

Regarding claim 24, (original) Akahane et al. in view of Booth teach the data transfer method according to claim 22, Akahane et al. further teach wherein in the step

b. 1), the control information is extracted from the second location of the received transmission signal (Fig. 12, extractor 1340); and in the step

b.2), the extracted control information is inserted into the second location (Fig. 11 and Fig. 12).

Regarding claim 25, (original) Akahane et al. in view of Booth teach the data transfer method according to claim 22, Akahane et al. further teach wherein in the step

b. 1), the control information is extracted from the second location of the received transmission signal (Fig. 12, extractor 1340); and in the step

b.2), the extracted control information is inserted into the first location (Fig. 11 and Fig. 12).

Regarding claim 26, (original) Akahane et al. in view of Booth teach the data transfer method according to claim 22, Booth further teaches wherein bytes that are not used in the transmission signal are assigned to the DCC transmit bytes (Fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Akahane et al. to include the DCC frame insertion taught by Booth in order to transmit control data in a SONET network. Also, it would be obvious to one of ordinary skill in the art at the time the invention was made to assign unused bytes of the transmission signal to the DCC transmit byte as known in the art in order to avoid wasting space in the transmission signal.

Regarding claim 29, (original) Akahane et al. teach the program according to claim 28, but fail to teach wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal. However, Booth teaches wherein the first location is data communication channel (DCC) bytes of the transmission signal and the second location is DCC transmit bytes that are previously determined in the transmission signal (Paragraph [0007] discloses control information is used to control the operation of the network and is therefore distinguishable from the random "customer" data that is transported by the network within payload 101. Both the section DCC and line DCC are traditionally used to carry alarms, network maintenance data, commands, network performance data and other administrative data to/from any node within a larger SONET network).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Akahane et al. to include the DCC frame insertion taught by Booth in order to transmit control data in a SONET network.

Response to Arguments

6. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIMA MAHMOUDZADEH whose telephone number is (571)270-3527. The examiner can normally be reached on Monday - Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NIMA MAHMOUDZADEH/
Examiner, Art Unit 2419

/Gregory B Sefcheck/
Primary Examiner, Art Unit 2419
6-8-2009